

## Solving Metaphysics - Part II

### Do We Regularly Make a Mistake in Metaphysics?

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*We should cherish metaphysics for its power to overcome false views and yet we admonish it for its ongoing failure. Is it possible that this is for the embarrassingly simple reason that we usually ignore Aristotle's definition for a true contradictory pair and so infect our calculations with errors?*

This casual but hopefully not unrigorous essay proposes that most of us make a logical mistake when we do metaphysics. It suggests that this common mistake is the reason for the philosophical confusion that besets the western tradition of philosophical thought, and that it would be only when we make this mistake that we are forced to see western metaphysics as a failure rather than a resounding success. It would be a simple mistake and easily made, but it would have profound and far-reaching consequences. As an example of how profound these consequences may be the logical scheme of the Buddhist philosopher Nagarjuna is discussed. This mistake may be the original source of the view that Nagarjuna's philosophy, and therefore mysticism as a whole, contradicts logic and reason, thus the reason why this solution for metaphysics is seen as illegitimate by many 'rational' philosophers.

The essay will seem heretical wherever this mistake is made. This would be because once it is corrected metaphysics becomes a reliable way to work out that according to reason Buddhist doctrine must be true. Any attempt to draw attention to this error is thus bound to become an argument for mysticism and, wherever his mistake is made, this will be assumed to be an emotional appeal and contrary to logic. Nevertheless, the question in the title can be answered as a matter of ordinary everyday logic without reference to the implications of the analysis for religion or our view of the world.

A mistake? Surely not. Well, you decide. The mistake would be basic, foundational, and in most areas of life would not matter at all. It would be a slight misinterpretation of the laws of logic as described by Aristotle and thus a tendency to reach incorrect conclusions by the use of reason.

We would expect nearly all philosophers to understand Aristotle's laws of logic well enough, especially since these laws are supposed to be no more than a formalisation and idealisation of the method by which we usually and naturally reason. Yet the regular misapplication of these laws leads to all sorts of problems in philosophy. There is a lack of clarity as to the precise definition of the contradictory and complementary pair of propositions usually denoted 'A' and 'not-A', the dialectical pair to which Aristotle's three laws would apply, and thus a tendency to misapply the laws.

When we come across problems such as Mind/Matter or Existence/non-Existence we usually assume that these theories, being complementary and contradictory, can be treated as A and not-A for the dialectic, thus that one or the other theory must be true. Either Mind or Matter must be fundamental, such that either a mental or corporeal phenomenon is fundamental, or the universe would break the laws of thought and would be paradoxical. We usually see all metaphysical dualities in the same way, be it freewill/determinism, externalism/internalism, eternalism/presentism, Something/Nothing or one of countless other pairs.

This assumption would be the mistake in the title. Once we make it then metaphysics becomes incomprehensible. Aristotle's laws of excluded middle and non-contradiction<sup>[1]</sup> can only be a trustworthy method for deciding logical questions where they are applied to a *legitimate* contradictory pair of dialectical propositions. Are we quite sure that these pairs of opposing theories are dialectical contradiction in the form of A/not-A? If they are not then the laws would not apply. The correct identification of such pairs would be utterly crucial for the success of any philosophical investigation and yet we rarely see much attention paid to the issue. Aristotle gives a simple definition but it is commonly overlooked, and perhaps it is not a coincidence that philosophical investigations are commonly failures.

Two prominent examples of this mistake can be found in physics and mysticism. It is quite often thought that quantum mechanics would require a modification to Aristotle's laws, usually on the basis that the behaviour of fundamental particles appears to break them. To many people it would appear that a 'wave-particle' would be a case of A/not-A such that an electron must be one or the other, yet it appears to be both or neither. The problem does not compute. The law of the excluded middle seems to prevent an electron being neither, the law of contradiction seems to prevent it being both and yet it cannot be one or the other. More often than not the blame for this problem is assigned either to ordinary logic, as if it is flawed as a tool for

describing the world, as conjectured by Heisenberg, or to the paradoxical nature of the universe, as if a true description of the world would contradict the laws of thought, as conjectured by Melhuish and Priest.

On the same basis, and it seems an unlikely coincidence, mysticism is often said to require the abandonment of formal dialectical logic. In a well-known case Heraclitus states, 'We are and are not', and often this is taken to be definitive evidence for the 'illogic' of his worldview, for it might appear that he is proposing the existence of a true contradiction. Perhaps the most regularly cited evidence that mysticism would require the rejection of Aristotle's 'laws of thought' is Nagarjuna's famous argument against extreme metaphysical positions as presented in his *Fundamental Wisdom of the Middle Way*, which generalises Heraclitus approach to all metaphysical propositions. My proposal here is that this perceived incompatibility with the laws of ordinary logic would be due to an incorrect interpretation of Nagarjuna's argument arising from exactly the mistake we are discussing here. I believe that Aristotle would have seen Nagarjuna's argument as an object lesson in the application of his laws, and would have recognised immediately that it depends entirely on these laws for its success.

We need not examine the details of this argument for the limited purposes of this essay. Nagarjuna lists all metaphysical theories that can be counter-posed with a contradictory theory and are thus partial or selective, and shows that they are all logically-absurd. This is Aristotle's dialectic method of refutation, the same method that we all rely on in metaphysics.

If we make the mistake discussed here then Nagarjuna's solution for metaphysics will appear to be not a solution at all but the rejection of all logically-possible metaphysical theories. His clinical and clear philosophical clarification of the Buddha's doctrine is then transformed into a public declaration of complete ignorance. This ridiculous interpretation is more or less orthodox in western thought since such thinking embodies a mistake. It is what we mean by 'western thought', the kind of thinking that must reject Nagarjuna for being 'irrational' or 'illogical'.

If we do not make a mistake, however, then we will see that the idea that one or the other of any of these counter-posed metaphysical theories *must* be true is an assumption and no more. It may seem a reasonable but it is not necessary. We are assuming that these counter-posed theories can be represented as A and not-A for an

Aristotelian logical analysis, such that we *must* decide between them, but we have not shown this to be the case and are not able to do so.

Consider an electron. Is it a wave? Is it a particle? Neither answer would be adequate. We could say that it is both. This would be closer to the truth than saying it is one or the other and it is what we usually do. We are forced, when describing the universe at this level, to speak in a seemingly contradictory language. It would not be rigorous to say that an electron is a wave and it would not be rigorous to say that it is a particle. It seems that we must speak in riddles. In this case, would an electron break Aristotle's rules?

It would not be possible for Reality to break Aristotle's rules. They make no prediction for 'what is the case'. For Aristotle 'what is the case' would be an empirical matter. Nothing could go wrong for his rules. His definition for a true contradictory pair of propositions A and not-A states, very simply, that one of the pair must be true and the other false. This is all there is to the definition. If we bear this definition in mind when thinking about metaphysics we will not make the mistake we are discussing here. The profound simplicity of this issue seems to be precisely why it is so widely overlooked.

Whatever is actually true or false about Reality it could not bring this definition into question. It is a rule for a system of thinking. Regardless of what is the case 'out there' in the world, wherever this strict rule for a true contradictory pair of metaphysical theories is broken the laws of dialectical logic can have nothing to say about which of them is true or false. They may both be true or both false and there may be a third, fourth or even twenty-fifth alternative theory. If an electron turns out to be a wave or a particle, or both, or something else entirely, then the 'laws of thought' would comfortably allow for this situation.

Likewise with Heraclitus' famous and seemingly paradoxical remark. If we apply the laws carefully then we need not, with Plato and Aristotle, who seem to have learnt of Heraclitus' ideas from a talk given by a student, conclude that Heraclitus had abandoned his reason. When Heraclitus states, 'We are and are not,' there would be no dialectical contradiction. It is clear that he is not claiming that either half of this statement is true or false on its own, but, rather, that there are these two ways of describing our situation, neither of which would be strictly true on its own. By itself each of the two extreme descriptions of our situation would be inadequate to the truth and each would be false for this reason. The laws of logic easily allow for this

because *two half-truths would not constitute a contradiction*. They will just appear to do so for someone who has not understood what is being said.

It is unquestionably a difficult claim that Heraclitus makes here, and it is this claim that Nagarjuna generalises to *all* conceptual categories. It could be a lifetime of work to follow the implications for metaphysics and psychology. Yet it causes no problems in dialectic logic, and it gives us no reason to suppose that Heraclitus had abandoned his reason. He is saying that by reduction and metaphysically-speaking ‘existence’ and ‘non-existence’ are *not* a contradictory pair. That is to say, it would not be the case that everything, or perhaps even anything at all, can be rigorously described as having only one of these attributes.

This view is difficult but it is not a rejection of dialectical logic. It is a rejection of our usual idea of existence and non-existence. For mysticism these would be the two extreme poles of the conceptual category ‘existence’. Such conceptual distinctions would not be fundamental, applicable to the fundamental or legitimate for an ultimate view. Distinctions would be things of this world, the world of intentional consciousness, of space-time and subjects and objects, the world of opposites. The evidence would be that all theories that assign dualistic or partial attributes to the fundamental, that reify division and distinction, contradict our reason and fail in metaphysics. It would be their failure that makes the doctrine of Middle Way Buddhism so plausible as a solution for metaphysics, and it appears to many people to constitute a proof. Or, it would make it plausible and constitute a proof just as long as we do not make the mistake discussed here and misapply the laws of thought, for then we will end up ruling this solution out for breaking the law of non-contradiction.

Nagarjuna may suffer more than most philosophers from this this category-related mistake for it is made by many of his interpreters. Buddhist philosophy will then appear to be a rejection of logic and quite possibly of any coherent world-view at all. This does not seem a sympathetic, helpful or logically justifiable interpretation of Nagarjuna’s logic.

What did Nagarjuna prove? Briefly, Nagarjuna’s second-century formal argument refutes all four available extreme answers to all dialectical (or ‘seemingly-dialectical’) metaphysical questions. Its importance would be partly dependent on whether the proof is valid, but its real value is the light it sheds on the philosophical underpinnings of the Buddha’s teachings. Where Lao Tzu briefly states that for an

ultimate view the 'world as a whole' can in no case be characterised as *this* as opposed to *that*, Nagarjuna is more expansive and lists all the things that the world as a whole, as a unified phenomenon, is not. He presents a more complex argument, one by which in no instance would it be correct to say that the world, when considered as a whole, is this *or* that, this *and* that or neither this *nor* that. This can be seen as some sort of complex four-value logical scheme, or it can be seen more simply as two pairs of dialectic propositions orthogonal to each other. His proof is a complete reduction of the categories of thought for a fundamental ontology and psychology. He shows that all positive or extreme metaphysical positions give rise to fatal contradictions.

In this case, how could a contradiction arise in Buddhist metaphysics? Where could we hope to find a true contradictory pair of dialectical propositions among a collection of metaphysical theories that are all supposed to be false? There could be no such thing. Freewill and Determinism? Neither would be strictly true. Materialism and Idealism? Same again. Something and Nothing? Internalism and Externalism? Mind and Matter? Existence and non-Existence? All would have the same solution. We are and are not. The solution would be general. This would be a global compatibilism of a very specific kind, one requiring no modification to ordinary logic nor any appeal to contradiction and paradox.

These ideas would help to explain one meaning of the phrase 'Middle Way' in Buddhism, and also the reason why the perennial philosophy is sometimes referred to as the 'doctrine of the mean'. That this world-view cannot give rise to logical contradictions is implied by these descriptive names. In metaphysics they would denote an outright denial of true contradictions. It may be the central claim of mysticism that there are no true contradictions, since this would be exactly equivalent to the claim that the universe is a unity. If the universe is a unity then all extreme, partial, selective or positive metaphysical positions are false. In this case, we can view the ability of scholastic metaphysics to refute them as its chief virtue and the principle reason for studying it. There would be no need to apologise for philosophy and every reason to be proud of it. This happy situation would be the consequence of not making the mistake we are discussing here.

Nagarjuna's metaphysical argument would not break the laws of Aristotle's logic but entirely depends on them. He shows that all extreme views give rise to contradictions and can in this way be refuted, such that they must be rejected for a rational worldview. If we do not reject these views in just the way that the dialectical method

demands then this argument against logically absurd theories becomes pointless. His method is 'abduction', defined by C. S. Peirce as 'inference to the best explanation' and also called 'eliminative induction'. This method demands the abandonment of theories that can be reduced to absurdity by reference to the contradictions to which they give rise. By this method of elimination Nagarjuna shows that his philosophical scheme is the only one that survives analysis and that neither this scheme nor the universe it describes contains any true contradictions. When he refutes a metaphysical theory it is by showing that it is *not* logically possible. He rejects all such theories and this is his only justification for doing so. There is no hint of an 'appeal to mysticism' and Aristotle's laws are fully respected.

If logical analysis shows that all positive, partial, selective, one-sided, extreme or dualistic metaphysical positions are logically indefensible, meaning that they can be refuted in the dialectic, then on what grounds can we argue that Buddhism, which claims that they are all false, requires the abandonment of dialectic logic? Where could we find a true contradictory pair among all these false metaphysical theories? Would not any such argument have to be based on some sort of logical error?

If we follow Aristotle's guidelines conscientiously then Nagarjuna's argument can be read as a vindication of ordinary logic and metaphysics, a proof that logic can lead us to metaphysical truths. But it can only do this if we avoid making category-errors along the way. The crucial issue would be that 'A' is not the contradictory complement of 'B' unless 'B' stands for 'not-A'. In metaphysics this means that the dialectical opposite of, say, Materialism is not Idealism. Rather, it is not-Materialism. Our tendency to see Idealism as the dialectical opposite of Materialism has some grounds in logic, it makes some sense, and the two conjectures can be formulated as precise opposites for the purposes of a legitimate dialectic debate. What we cannot do, however, if we are using logic properly, is to assume that either of them is true. This assumption is unnecessary and cannot be justified on grounds of logic. If we do not know that one of this pair of propositions is true and the other false, whether empirically or for logical reasons, then we do not know that they would form a legitimate contradictory pair. In this situation, when we cannot think of a third alternative this may not be a logical problem but a lack of imagination or to do with the inconceivability of the alternatives. The assumption that one of Idealism or Materialism *must* be true is an extra-logical assumption unless we can already show that it is not an assumption. There would be no contradiction, no breaking of the LEM or LNC, if we were to assume that both of these extreme metaphysical positions

are false. Indeed, Nagarjuna shows that there would be a contradiction if either were true.[\[ii\]](#)

In his book *The Paradoxical Universe* Melhuish rejects Buddhism. This is noteworthy and directly relevant. He sees that all partial metaphysical positions give rise to contradictions, as Nagarjuna demonstrates, but he cannot see how to abandon them, how to reduce them for a fundamental theory. The view that would remain once they are abandoned seems incomprehensible to him, and he can see no other option than to reify these contradictions for a paradoxical worldview, a world in which there would be true contradictions. The true existence of these contradictions would explain his personal inability to resolve them. The universe would be formally unreasonable and Buddhist doctrine would be false.

This view would be an important alternative to logical positivism and it is similarly motivated. What Melhuish does not see, no more than did the logical positivists, is that the metaphysical dilemmas that seem to push him, and all of us, inexorably towards this paradoxical view are not true contradictory pairs of propositions according to Aristotle. They would be category-errors, unfair and illegitimate questions. It would be perfectly possible, therefore, to abandon all of the metaphysical positions that form the horns of these numerous dilemmas while maintaining a rational and reasonable worldview free of contradiction. Nagarjuna shows us how to do it.

Melhuish rejects Nagarjuna, however, and ends up with a paradoxical philosophy. This would be a prominent example of a misuse of logic, (unless this essay is a better one!), and it massively confuses some fundamentally simple issues. Nagarjuna rejects all cases of A/not-A in metaphysics and so ends up with a perfectly reasonable worldview. There would be no motive for concluding that the universe is logically absurd. There would be no reason to suppose that Aristotle's logical system does not allow for all existential possibilities. There would be no reason to suppose that Buddhist doctrine requires a modification to dialectic logic. There would be no reason to suppose that Nagarjuna was without a coherent view of his own. There would be every reason to suppose that his view would be very difficult to understand, but this would have no bearing on any logical issues.

What we often miss, it seems to me, or at any rate I missed it for decades, is that while Materialism and Idealism, say, which could stand here for any pair of directly opposed metaphysical theories, may be formulated so as to be mirror-images,



experience shows that they cannot be formulated so that either of this pair of images would work as a fundamental theory. This would be the entire problem of metaphysics right here, since its problems are holographic. If we think that according to the laws of dialectic logic one of these theories *must* be true and the other *must* be false then we will see this as a metaphysical paradox, *ignoramibus* or 'barrier to knowledge'. These pessimistic terms are used all over the place in philosophy of mind. One of these positions must be true yet neither of them can be. This leads a great many philosophers to the view that there is no knowledge of the world to be gained in metaphysics, as if God has made it impossible for us to work out a solution for ontology. But if we think that one of these positions *must* be true then we have made a very important assumption that has nothing to do with logic or common sense. After many centuries of failing to decide this problem and others like it common sense would suggest that this assumption is a basic mistake and is the most likely reason why metaphysics so often seems to be a dead end.

'Dilemma' means 'two truths'. It is clear that Idealism and Materialism cannot form a dilemma if neither is true. If neither is true then other options can be considered. Heraclitus' statement 'We are and are not' may seem to present us with a dilemma but we can note that Lao Tzu states that true words seem paradoxical, not that they actually are. They will often appear paradoxical precisely because it is common for people to misunderstand or forget Aristotle's definition for a contradictory pair. Heraclitus will seem like madman to anyone making this mistake. Yet this is only a matter of interpretation. True words will not seem contradictory, just confusing, if the small print for Aristotle's laws is properly taken into account. Nagarjuna's view would require that we look beyond our classical concepts and, at the limit, all of our concepts, but not that we abandon our classical methods of logical analysis and certainly not our common sense.

So, for any pair of competing metaphysical theories the question of which is true and which false cannot be decided in logic unless and until we know that they would constitute a well-formed contradictory pair. If they would not then all bets are off. If we ignore Aristotle and make category-errors, counter-pose conjectural theories incorrectly, then the output of our logical calculations will be incomprehensible, metaphysics will seem to be a morass of undecidable questions, an electron will appear to be impossible, Heraclitus will appear to be schizophrenic and Nagarjuna's philosophical position will appear to be perverse. It seems possible, therefore, that this easy-to-make error in the application of Aristotle's laws may be a principal cause of the suspicion with which so many analytically-minded philosophers view

mysticism. Once we have made it then the idea that world is a unity beyond all conceptual distinctions is bound to appear logically absurd and irrational. This idea will now appear to be the rejection of all logically possible theories rather than all logically impossible ones. Worse, once we have made this assumption we find that all well-known and ancient metaphysical problems become intractable. There would be no upside, except that religion now becomes less plausible and we are left free to choose our pet metaphysical theories on a whim.

This is, therefore, a mistake to be avoided at all costs. It is easy to avoid if we are mindful. The problem is only that when we carefully avoid this mistake the worldview that emerges from a logical analysis of metaphysical questions becomes extremely difficult to comprehend. It may not be immediately obvious that any sense can be made of it. This would be a psychological barrier, and it can be a significant one even for those who wish to endorse the resultant world-view. But we are not talking here about psychology or even about what is true, and not even about mysticism except as an example, only about a simple matter of logic. Few people would claim to properly understand the world-view that is endorsed in this essay, and certainly not its author, since such a claim would imply omniscience, yet the logical issue remains simple and straightforward.

Clearly this misapplication of Aristotle's laws has catastrophic consequences for Buddhism and mysticism in general. It renders Nagarjuna's view untenable, thus ruling out from consideration the only known workable solution for metaphysics. It leads a great many people, even many of those who endorse and practice the mystic arts, to assume that for the Buddha's view we would have to abandon our reason. It leads to the extraordinary idea that Nagarjuna refutes *all* possible metaphysical positions, as if he had no coherent view of his own. Sometimes even Buddhist scholars give him this interpretation. In fact he is lining up his view with a perennial philosophy for which ultimate reality would lie, in the words of Nicolas de Cusa, 'beyond the coincidence of contradictories,' thus beyond the explanatory reach of the subject-predicate structure of language and the dualism required for dialectical logic. It would have been impossible for Nagarjuna to say more. The Tao that is eternal cannot be talked. All we can do is point. All we can do, that is, is identify what it is not by a process of abduction.

To avoid making this basic categorical mistake in metaphysics we would need just one health and safety notice in the office. When faced with what seems to be a contradiction between a pair of metaphysical propositions, statements, conjectures,

theses or theories, all we would need do is ask ourselves two questions: If one of these propositions is true then must the other be false? Must one of these propositions be true? If the answer to both these questions is 'yes' then we are facing a true contradictory pair and must decide it according to the rules. If the answer to either of these questions is 'no' or 'maybe' then all bets are off. The law of the excluded middle would not apply and both answers could be false. A little experimentation with this method shows that it is difficult to be sure that any well-known metaphysical dilemma truly qualifies for the name and easy to see that all such perceived dilemmas rest on questionable assumptions. This is the reason why Nagarjuna's proof will never go away in metaphysics and why the Buddha's doctrine is irrefutable in the dialectic. It remains to this day the only solution for metaphysics that cannot be refuted other than the theory that the universe is paradoxical. Nagarjuna did not refute this latter idea and would probably have felt no need to do so even if it were possible.

By asking these two questions we correct a mistake and metaphysics is transformed. We now have a subtle knife or magic sword with which to cut through all the problems of metaphysics. No longer can we be trapped on the horns of a thousand dilemmas. All the dilemmas disappear at once to be replaced by a large heap of unwanted partial theories all of which do not work, never have, never will, and that can be rejected. At last we can exit Kant's 'arena for mock fights'. Nagarjuna's metaphysical view is revealed as the only one that is logically defensible. The results of logic, on the one hand, as represented by Nagarjuna, and of experience, on the other, as represented by the Buddha, would coincide precisely. Even Kant, who seems to have had less influence on current philosophy than his reputation would imply, would be on board. He states in the *Critique* that all selective conclusions about the world as a whole are undecidable. This could only be true if all selective (partial, extreme, positive) theories are logically indefensible, and in a reasonable universe this could only be explained, in turn, by supposing that they are all false. No new *logical* problems arise and all existing problems disappear. It is not even a very contentious solution. There are few philosophers who have argued with Nagarjuna and Kant's metaphysical conclusion on grounds of analysis, for the two great philosophers only prove what we all discover. It is only ever our interpretation of their conclusion that varies, and this will depend critically on how we interpret and apply the laws of thought.

For more real life examples of this logical mistake, the incorrect construction of contradictory pairs, it may only be necessary to examine the arguments of someone

who believes that metaphysics does not produce a result and is a waste of time. Almost invariably, perhaps even always, this view will be found to derive from the category-error described here. Such a person will be somewhat baffled by the fact that in his metaphysical essay *Appearance and Reality* the English (absolute) idealist Francis Bradley argues for the crucial importance of metaphysics by demonstrating, using much the same method as Nagarjuna, that it does *not* endorse a positive result, and that this would be its most secure, repeatable and important result. If metaphysics did not always produce this exact same result then there would be no motivation for dialethism, materialism, logical positivism, objectivism, mysterianism, naturalistic dualism, holding our heads in our hands, concluding that metaphysics is useless and other such pessimistic responses to the perceived dilemmas of metaphysics.

Aristotle's careful definition for contradictory pairs means that although we might reject Nagarjuna's proof of the Buddha's doctrine for various reasons, it cannot be on the grounds that it would require a modification to the laws of thought or imply a paradoxical or 'illogical' universe. Nor can we accuse metaphysics of inconclusiveness when it is so easy to verify that it invariably reaches the same conclusion. Indeed, for most critics it would be their principle complaint against metaphysics that it invariably reaches the same conclusion. They would see this as a proof of its failure. They do not see that their complaint is in fact high praise, for it concedes the reliability of metaphysical analysis. If it still seems to them to be a criticism then it can only be because they have not considered that the failure of one way of thinking must be the success of another.

Aristotle's definition for a contradictory pair is: *Of every contradictory pair, one member is true and the other false.* Compare this with Nagarjuna, Bradley and Kant's logical result: *All extreme metaphysical positions are logically indefensible.* The latter states that there are no irreducible dialectical contradictions in metaphysics, while the former states that the rules allow for this situation. As a hostage to fortune it can be predicted that whenever we meet what seems to us to be a logically intractable metaphysical dilemma it will be because we have forgotten one or both of these statements. If we find that in some instance that we are able to rule out this explanation and really do face a logical dilemma, then we will have proved that Buddhist doctrine disobeys the laws of classical logic.

These discussions of logic can be arid and futile and yet everything depends on them. It seems inevitable that unless we can show that metaphysics, rigorously practiced, is

a path to truth, and find a way of making it so, then we will have no method for reconciling religion, science and philosophy. In order for metaphysics to be useful in this way it would be necessary to be utterly precise in our use of logic. If we are not, if we make the kind of mistake discussed here, then we will be led astray by metaphysics and may never notice the cause of the problem. It would be my view that Aristotle gives us the necessary tools and Nagarjuna shows us how to use them, and that these two philosophers provide us with the means of reconciling the best of religion, metaphysics and science for a logically coherent, irrefutable, well-developed, unproblematic, optimistic and eminently useful worldview.

[For an authoritative and clear discussion of Aristotle's laws and their correct application there is C.W.A Whittaker, *Aristotle's De Interpretatione: Contradiction and Dialectic*. I am deeply indebted to it. There is also a directly relevant essay by John Corcoran, 'Aristotle's Prior Analytics and Boole's Laws of Thought, History and Philosophy of Logic' at <http://philpapers.org/rec/CORAPA>. For an uncluttered introduction to Nagarjuna's *Fundamental Wisdom* I would recommend Khenpo Tsultrim Gyatso, *The Sun of Wisdom*, trans. Ari Goldfield, Shambala (2003).]

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[i] The law of non-contradiction (LNC) states that for any A it is impossible for both A and  $\sim A$  to be true. That is to say, if the assertion 'x is square' is true, then the assertion 'x is-not square' cannot also be true. The law of the excluded middle (LEM) states that for any A it is necessary for one of A and  $\sim A$  to be true. Either x is square or it is not, there is no third alternative. Where there is a third alternative then A and  $\sim A$  are not legitimate dialectical propositions.

[ii] These comments would apply to Idealism only where it is a mirror-image of Materialism. There are forms of Idealism that stand up in logic and Nagarjuna's view could be seen as one of them. 'Absolute' and 'Transcendental' are common qualifiers to identify non-subjective forms of Idealism. But in these forms Idealism is not simply the antithesis of Materialism. This is a terminological issue, of no concern here. The form of Idealism discussed here would be the one that Nagarjuna refutes and that is directly opposed to Materialism.